1   1.   A travel planning system comprises:

2   a scheduling process for determining a set of instances

3   of transportion that satisfy a user query;

4   a faring process that determines fares valid for at

5   least some of the instances in the set of instances of

6   transportion; and

7   an availablity process that uses results from a single

8   source of seat availability for a mode of transportation to

9   determine a set of available instances of transportion and

10   determines whether the results from the single source are

11   reliable.

1   2.   The travel planning system of claim 1 wherein if the

1   availability process determines that the results are not

2   reliable, the availablity process makes a second seat

3   availability queries to a different source of seat availability

4   information.

1   3.   The travel planning system of claim 1 wherein the

2   availablity process makes multiple, sequential seat availability

3   queries to multiple sources of seat availability information.

1   4.   The travel planning system of claim 1 wherein the

2   availablity process makes multiple simultaneous seat availability

3   queries to multiple sources.

1   5.   The travel planning system of claim 1 wherein the

2   sources of seat availability information have differing fixed and

3   marginal costs associated with obtaining information, including

4   computation, communication, time, and cost.

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1 6. The travel planning system of claim 5 wherein the
2 travel planning process controls costs by setting a threshold
3 limit on the availability process to access the sources for at
4 least one of the costs.

7. The travel planning system of claim 6 wherein the
thresholds are timeouts or price limits.

1 8. The travel planning system of claim 7 wherein the
2 availability process prioritizes queries to an availability
3 source to remain under a specified cost limit.

9. The travel planning system of claim 1 wherein the
sources of seat availability information generate replies with
differing quality properties such as freshness, confidence,
precision, and validity.

10. The travel planning system of claim 1 wherein the
availability process determines tradeoffs between the cost of a
query and the properties of the response.

11. The travel planning system of claim 1 wherein the
availability process speculatively determines travel options
using low-quality, uncertain, or missing availability data as
though they were high-quality or certain data.

1 12. The travel planning system of claim 11 wherein the
2 low-quality answers used are not returned from any external
3 source of availability information but are guessed or computed
4 internal to the travel planning process.

1   13.   The travel planning system of claim 11 wherein the
results of the speculative computation are used to decide what
additional seat availability queries should be issued, what
4   sources should be queried, what quality data are needed, or what
5   cost to incur to get additional information.

1   14.   The travel planning system of claim 1 wherein the
2   travel planning process data containing scheduling and fare
3   information and availability data to an intelligent client for
4   further processing and integration by the client.